

LaX: Boosting Low-Rank Training of Foundation Models via Latent Crossing

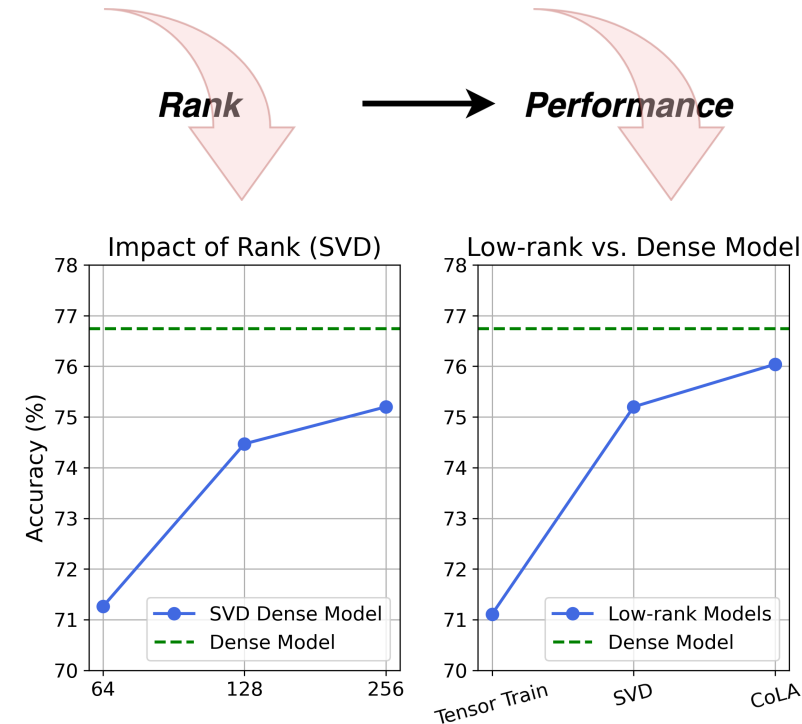
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Motivation:

Low-rank models are smaller in size but:
Smaller rank, worse performance.

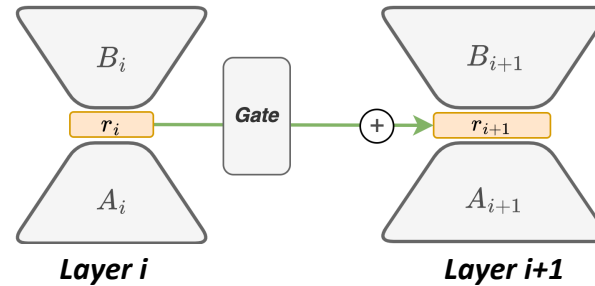


Goal:

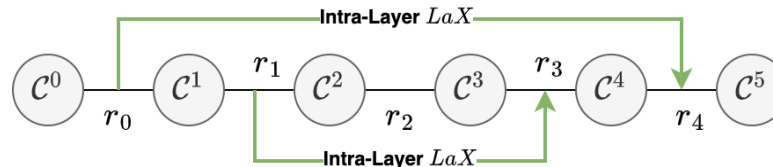
Full-rank Performance but Low-rank models?

Our Solution: Latent Feature Fusion

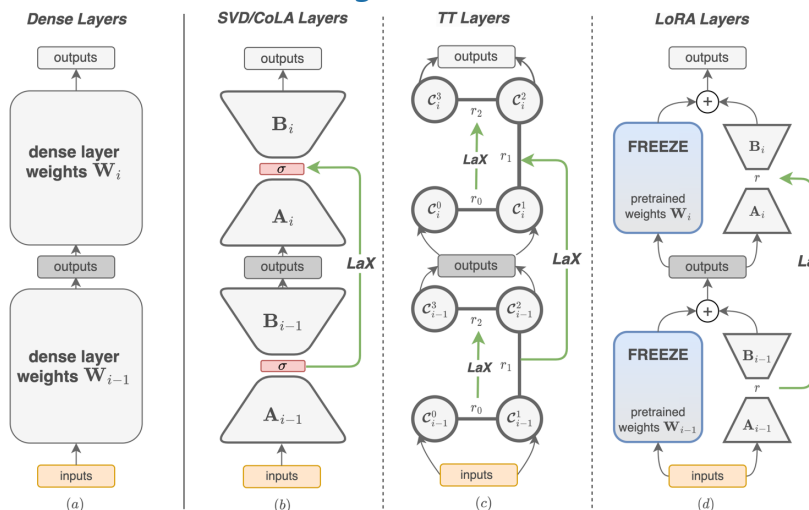
• Inter-layer LaX



• Intra-layer LaX

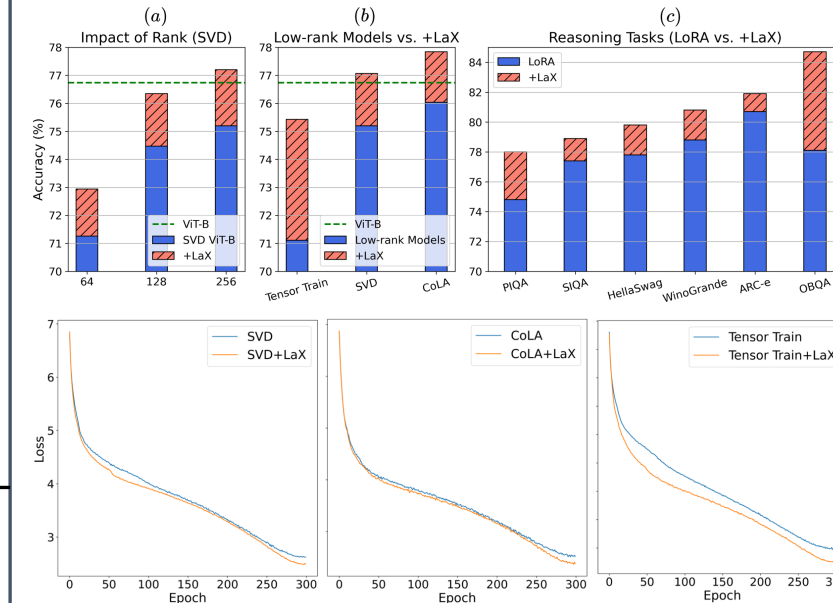


Plug to win!



Experiments:

• ViTs Pre-training (ImageNet-1k) & LoRA Fine-tuning (Commonsense)



• LLMs Pre-training (C4)

